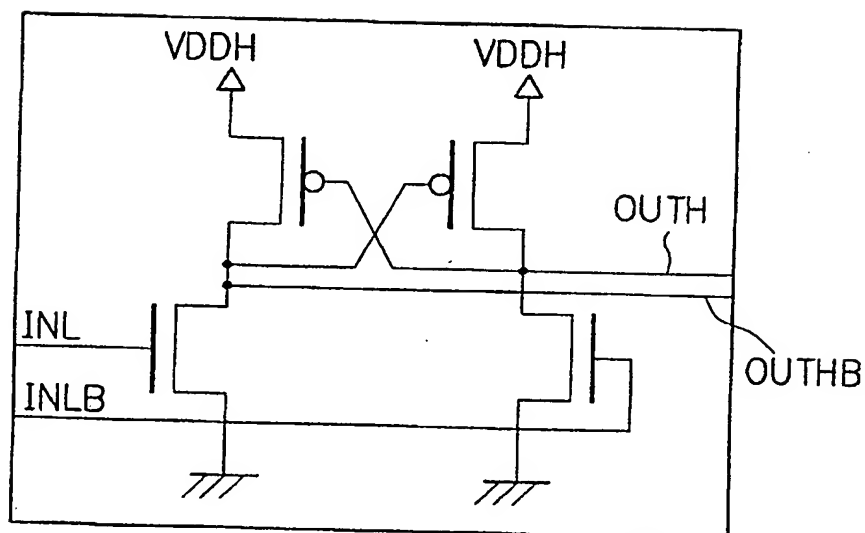
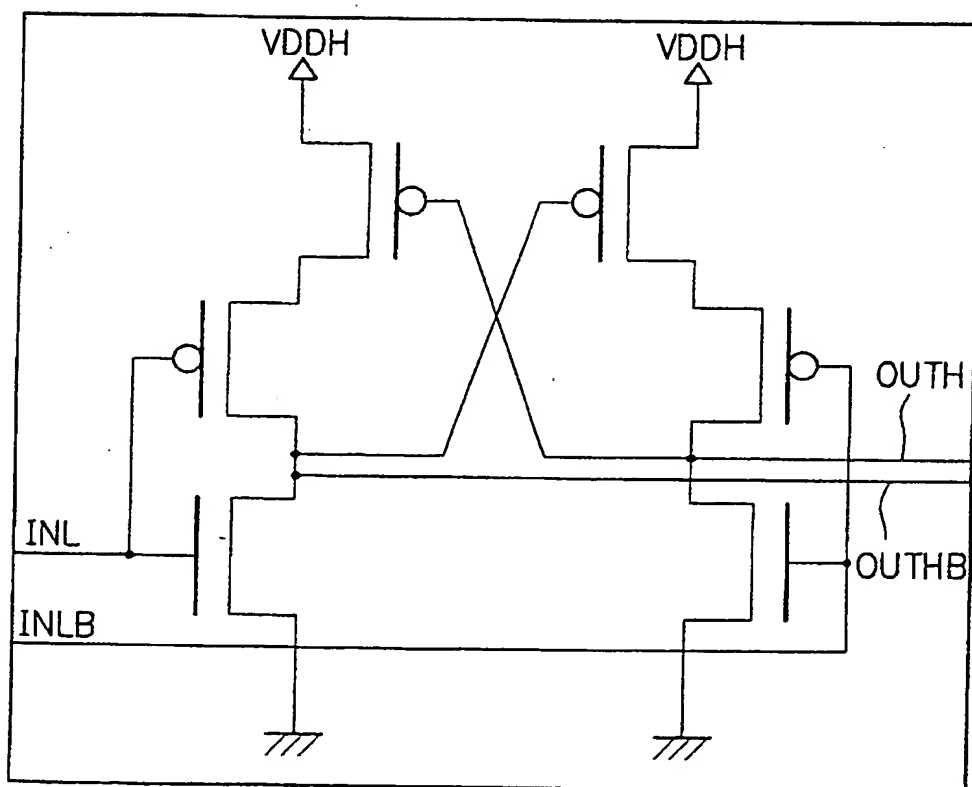


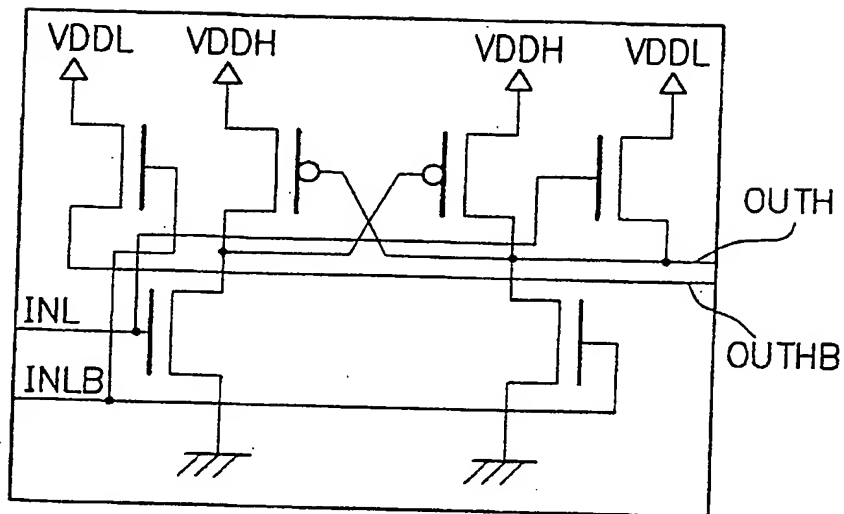
FIG. 1



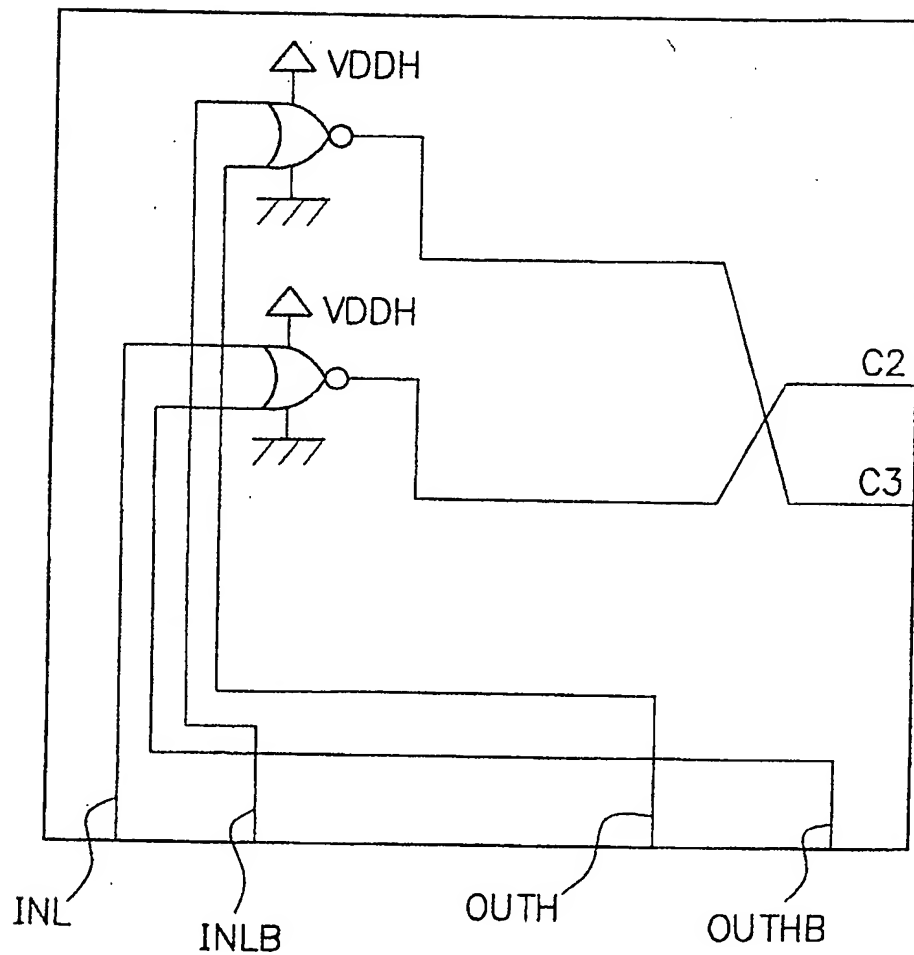
F I G. 2



F I G. 3



F I G. 4



F I G. 5

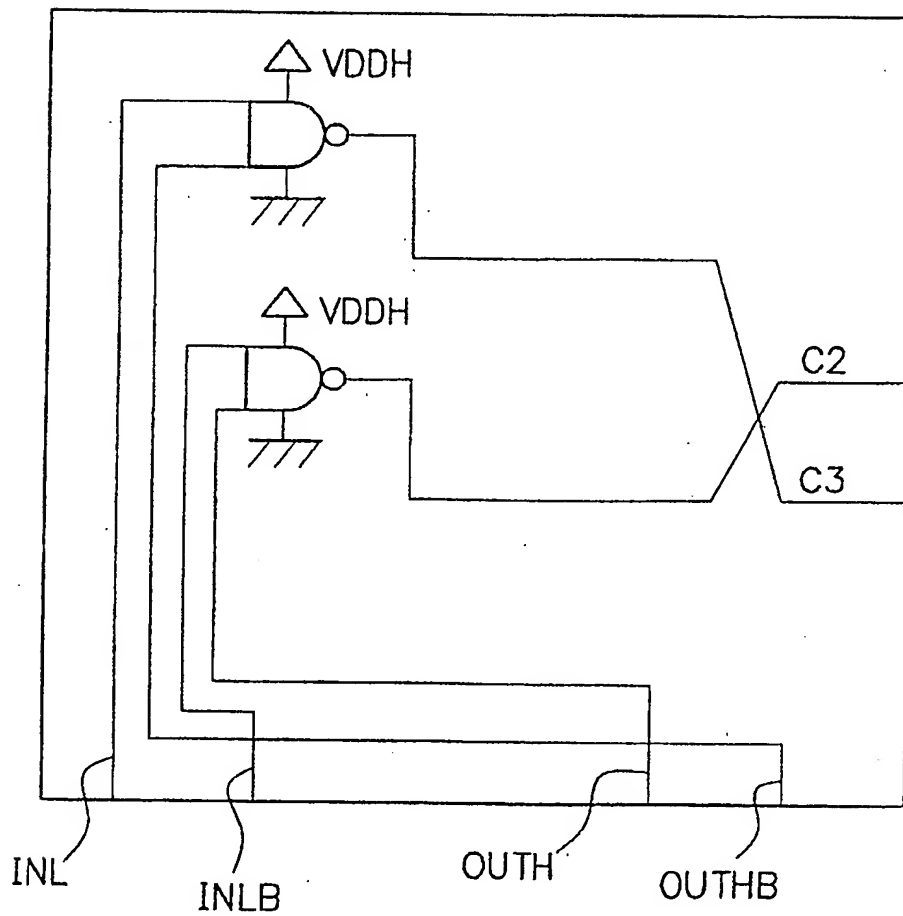
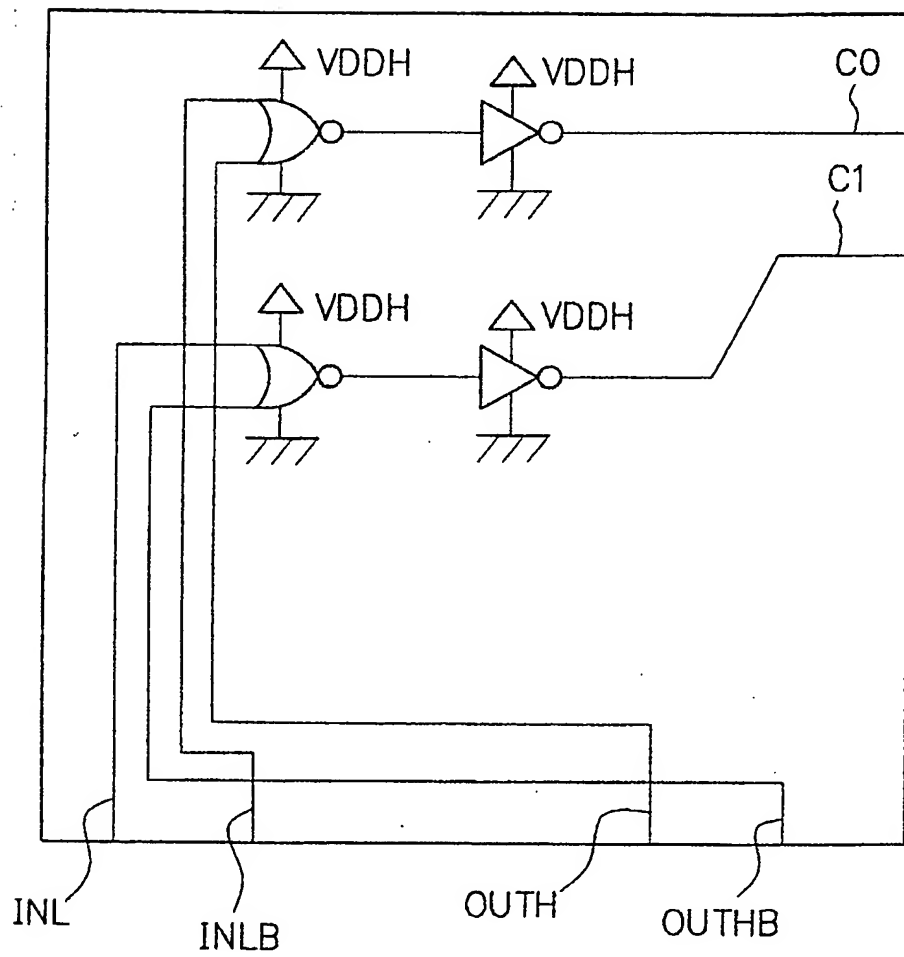


FIG. 6



F I G. 7

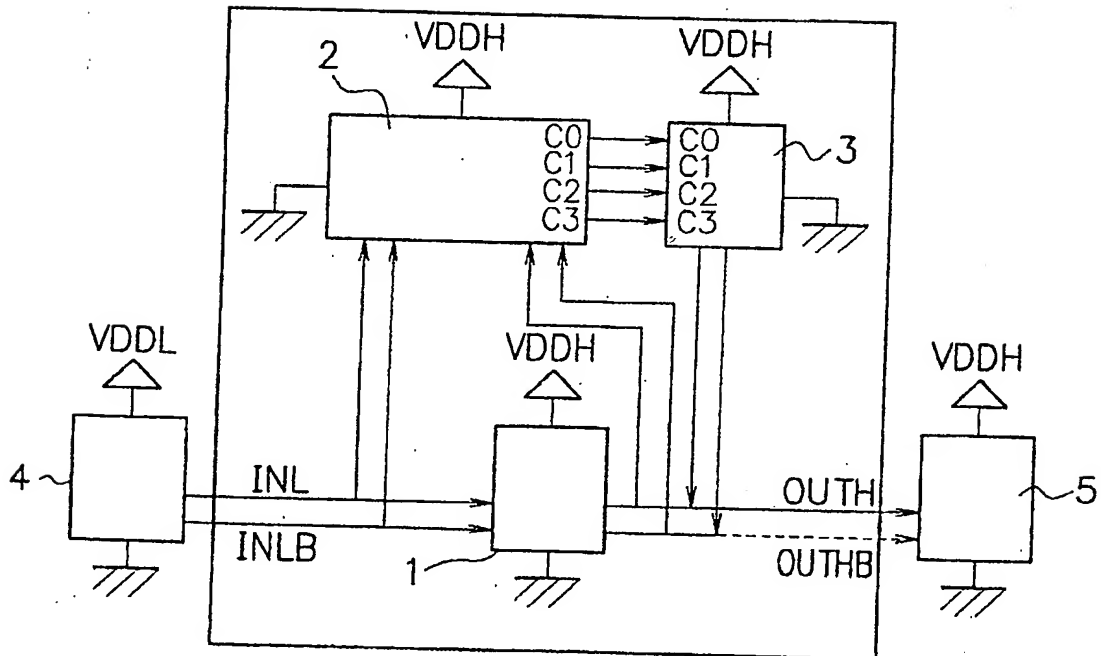
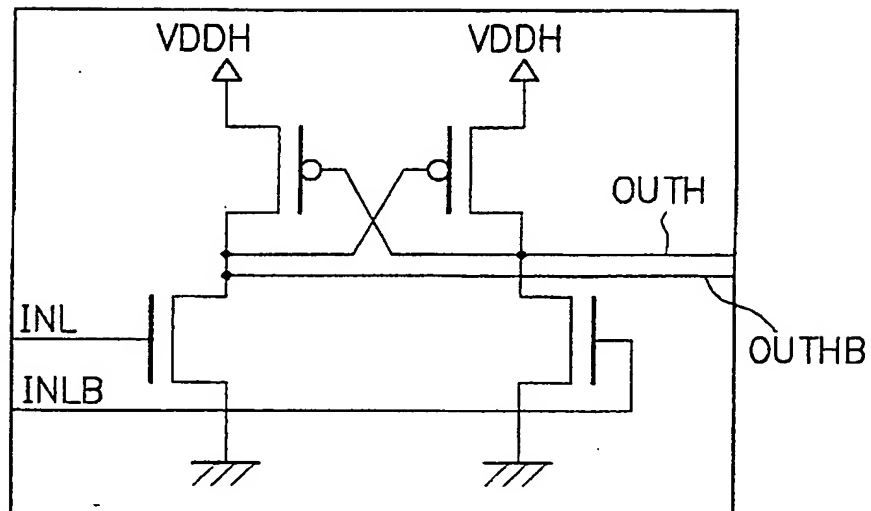
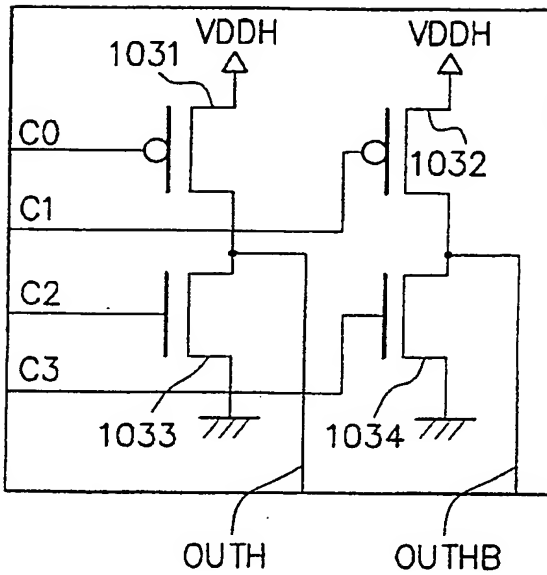


FIG. 8

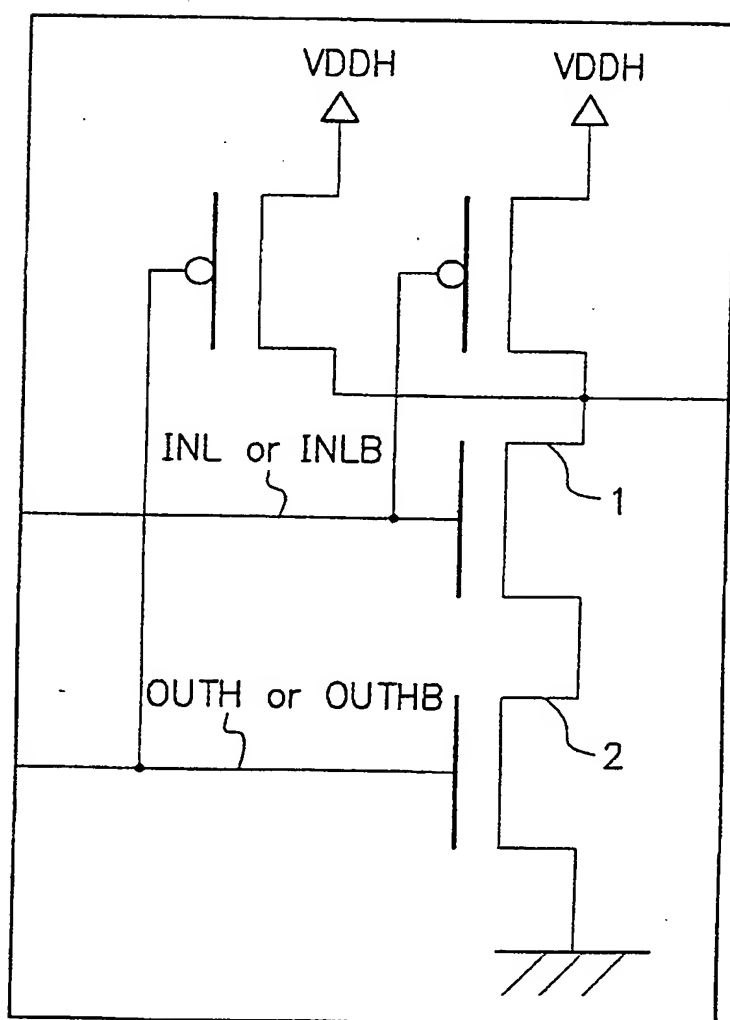


The diagram shows a 2-to-4 decoder circuit. It has two inputs, INL and INLB, and four outputs, OUTH, OUTHB, C0, C1, C2, and C3. The circuit is implemented using two 2-to-1 multiplexers. Each multiplexer has a VDDH supply and a ground connection. The outputs of the multiplexers are connected to the C0, C1, C2, and C3 lines. The OUTH and OUTHB outputs are connected to the C0 and C1 lines, respectively. The C2 and C3 lines are connected to the OUTHB and OUTH lines, respectively.

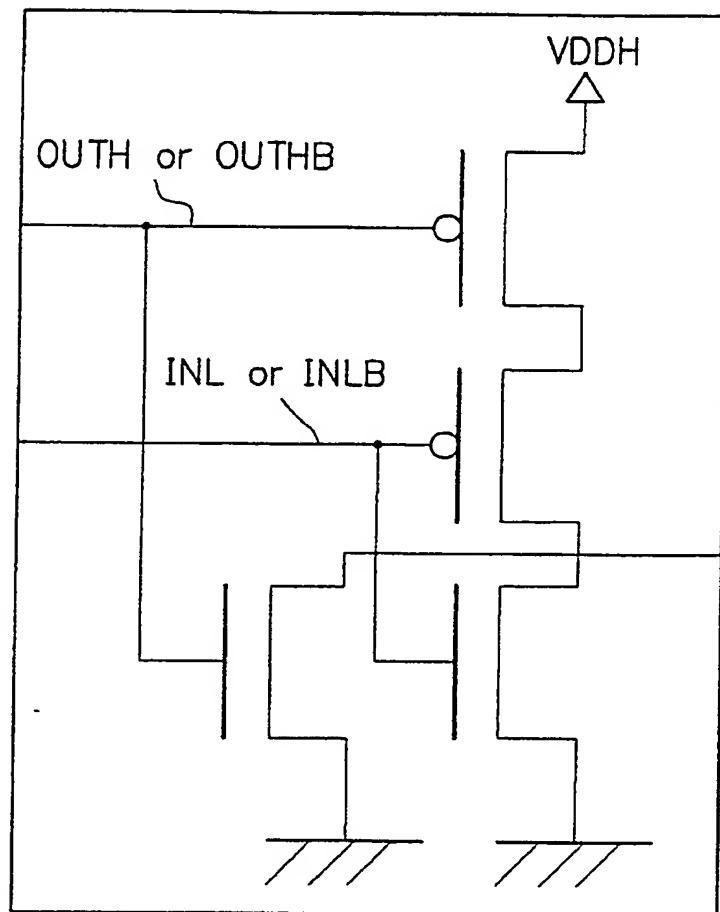
F I G. 10



F I G. 11



F I G. 12



F I G. 13

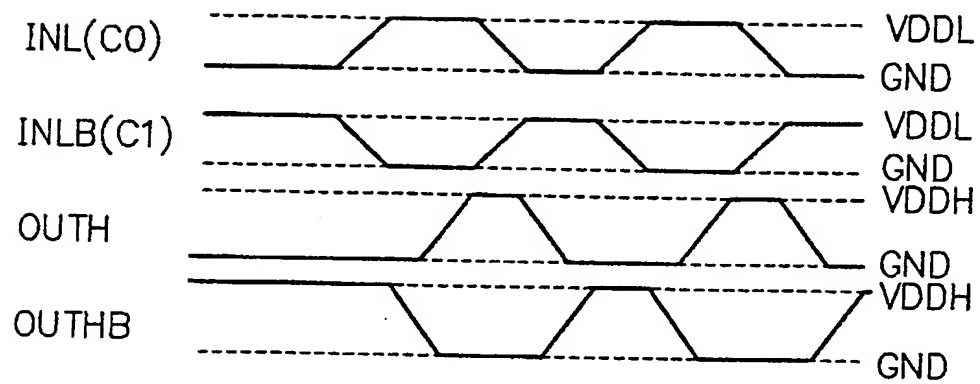
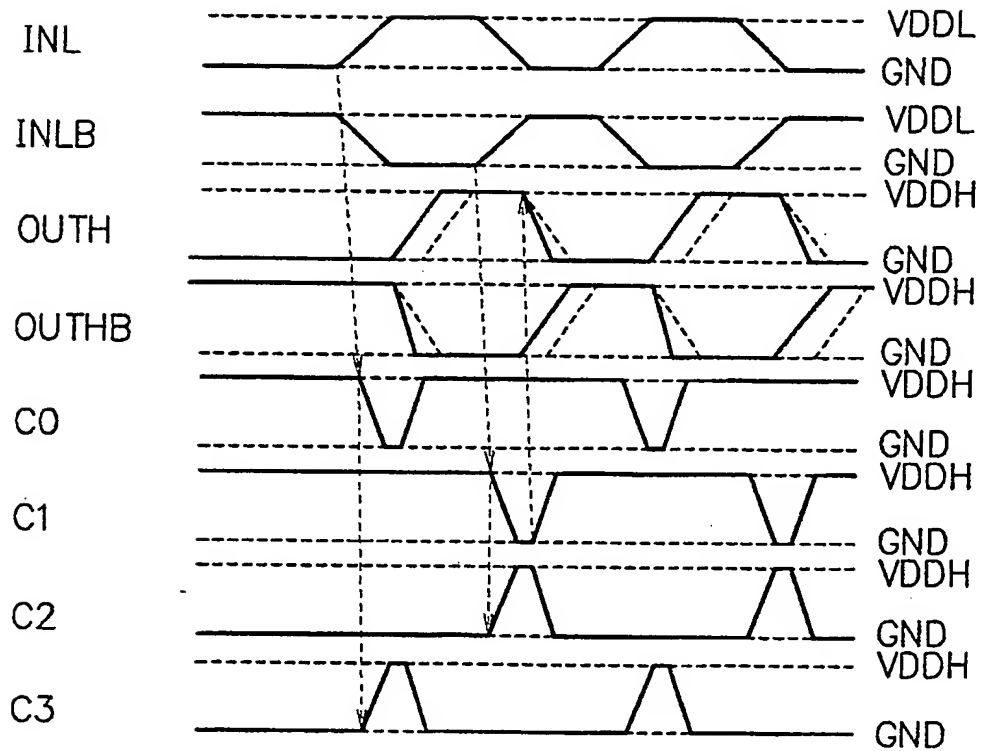
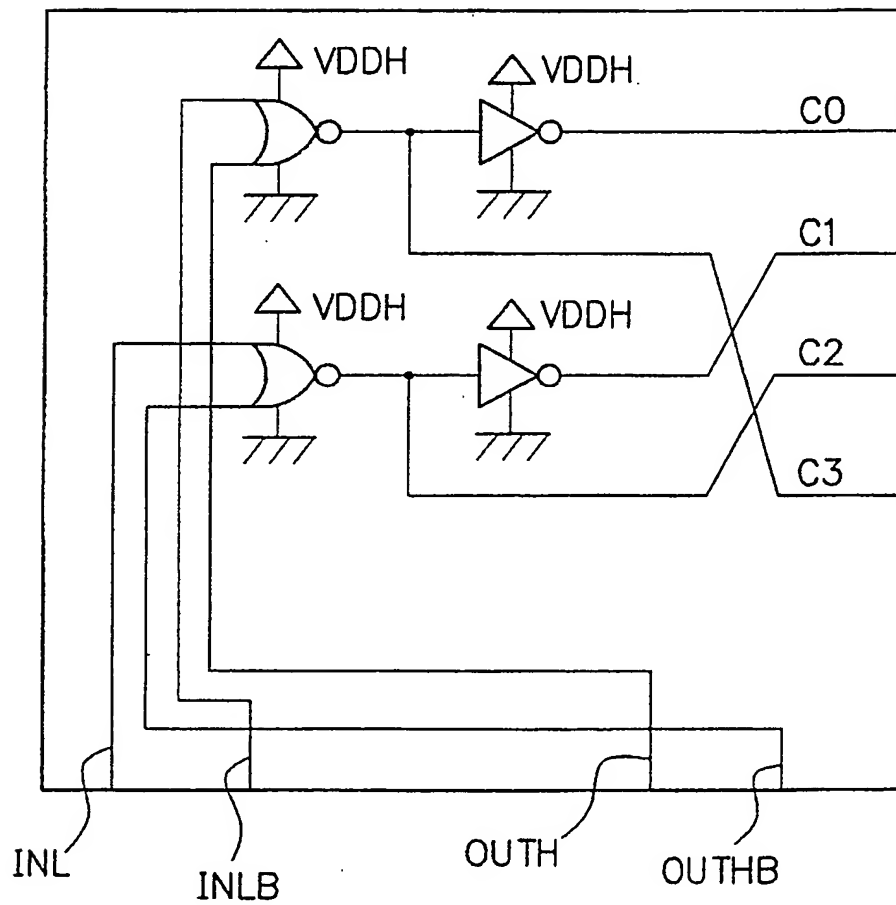


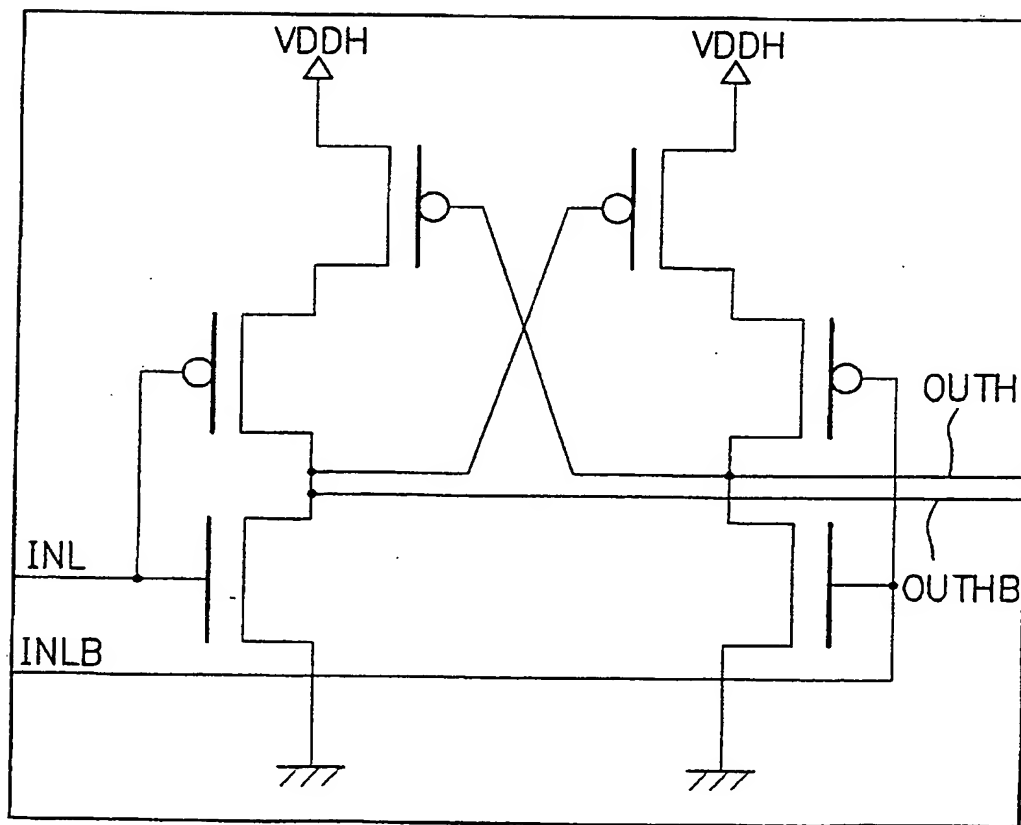
FIG. 14



F I G. 15

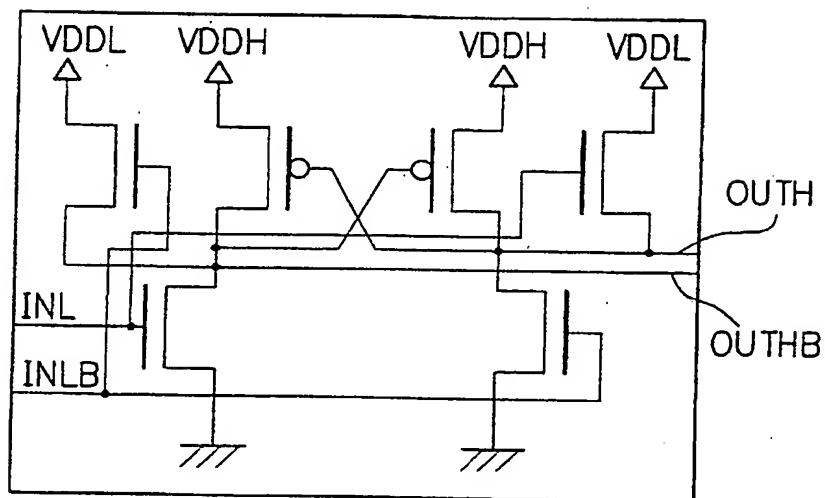


F I G. 16

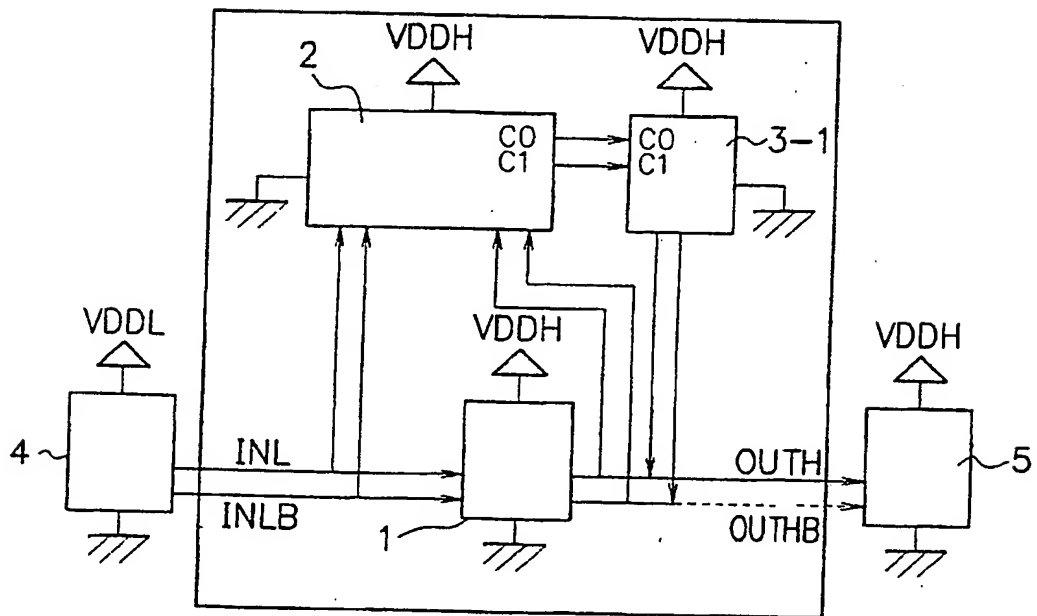


Masahiro NOMURA
LEVEL SHIFT CIRCUIT
Filed: May 5, 2005
Attorney Docket No.: Q87901
Telephone No. 202-293-7060
Sheet 17 of 38

F I G. 17



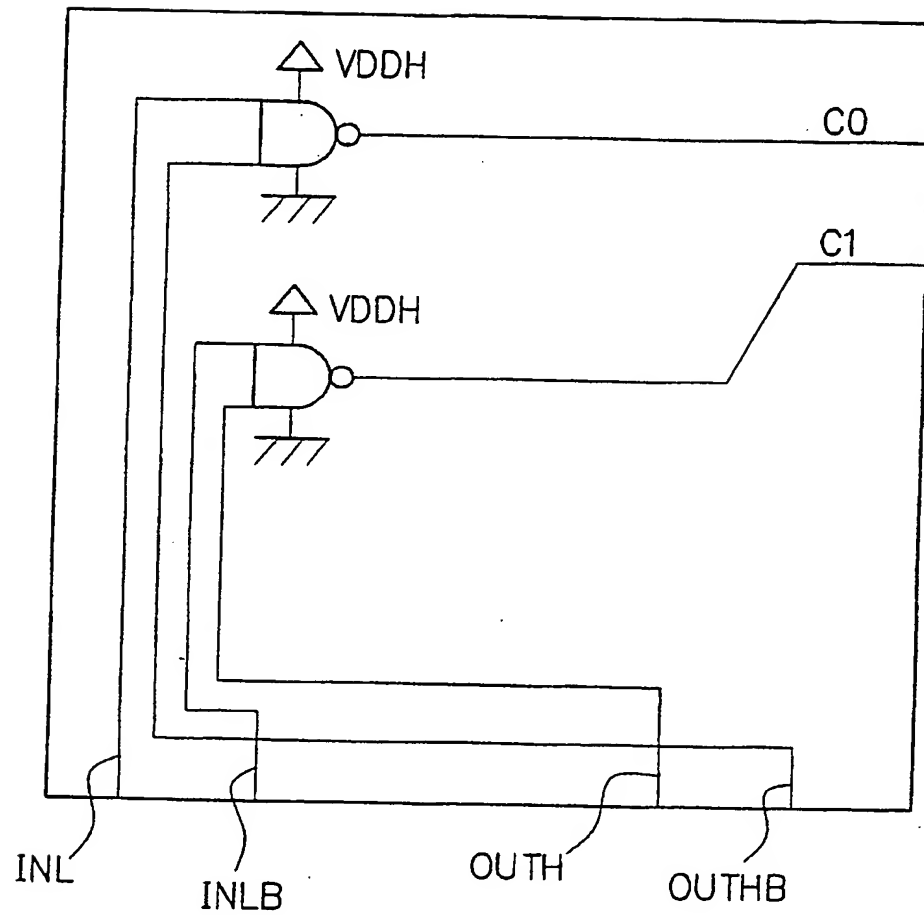
F I G. 18



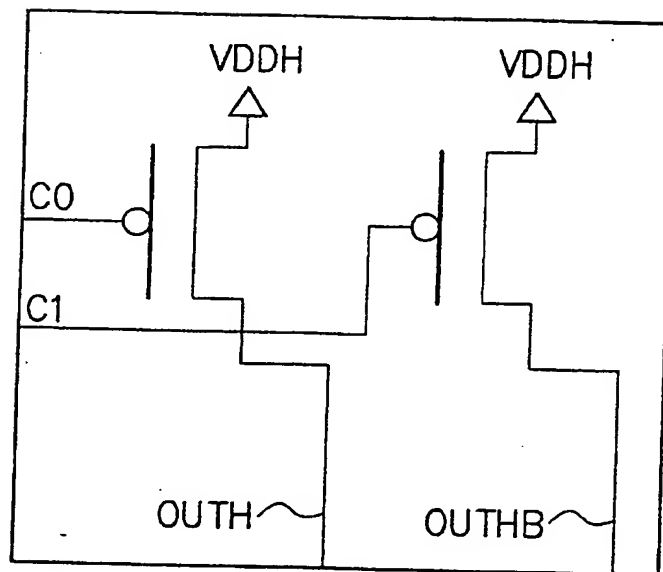
10/533807

Masahiro NOMURA
 LEVEL SHIFT CIRCUIT
 Filed: May 5, 2005
 Attorney Docket No.: Q87901
 Telephone No. 202-293-7060
 Sheet 19 of 38

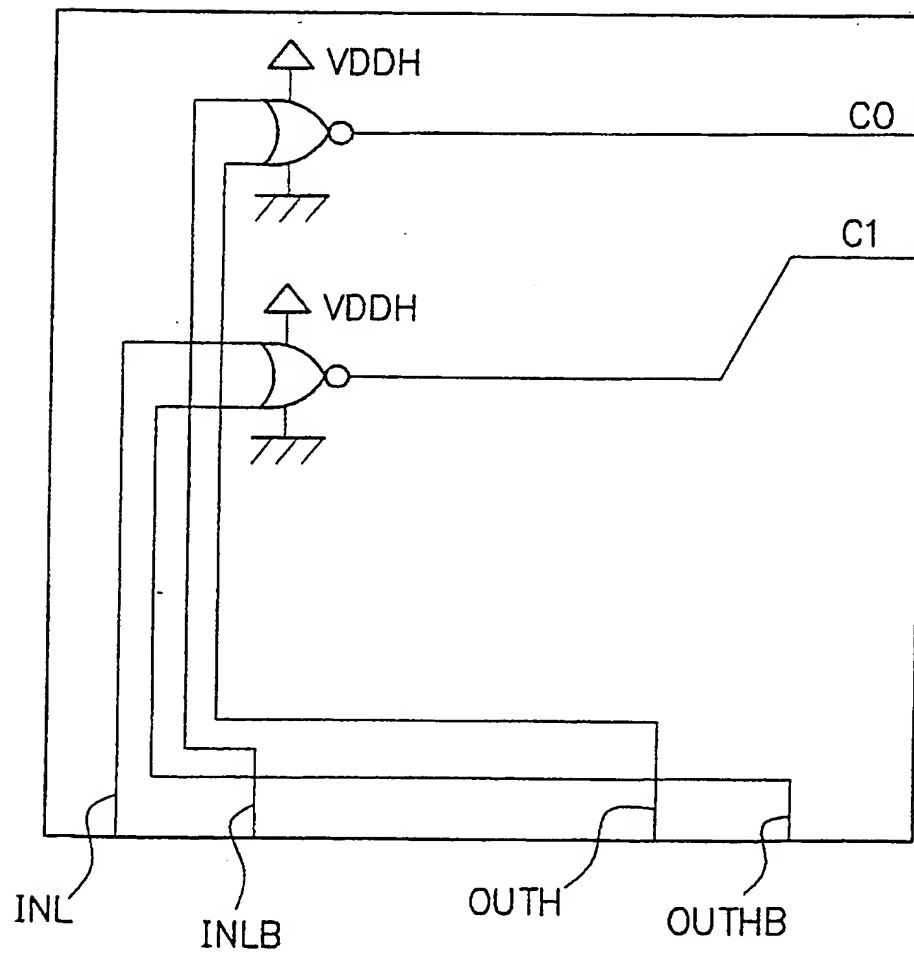
F I G. 19



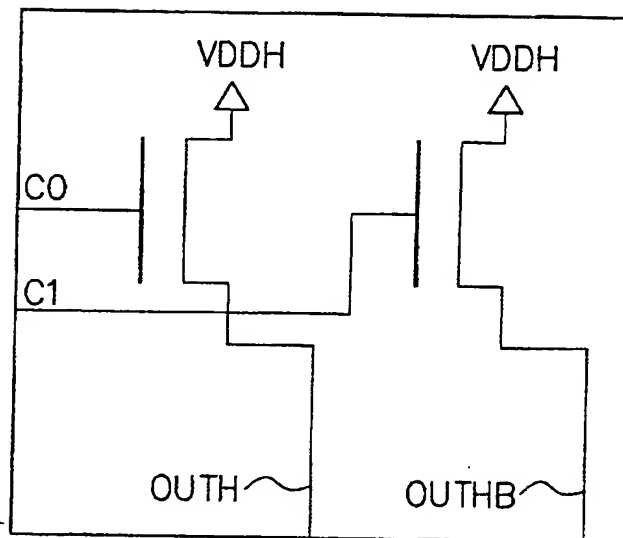
F I G. 20



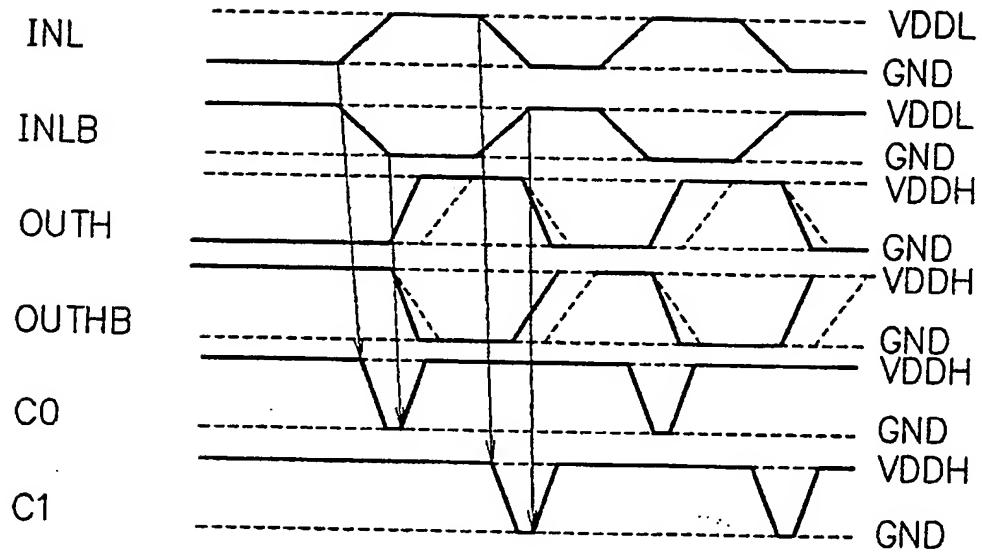
F I G. 21



F I G. 22



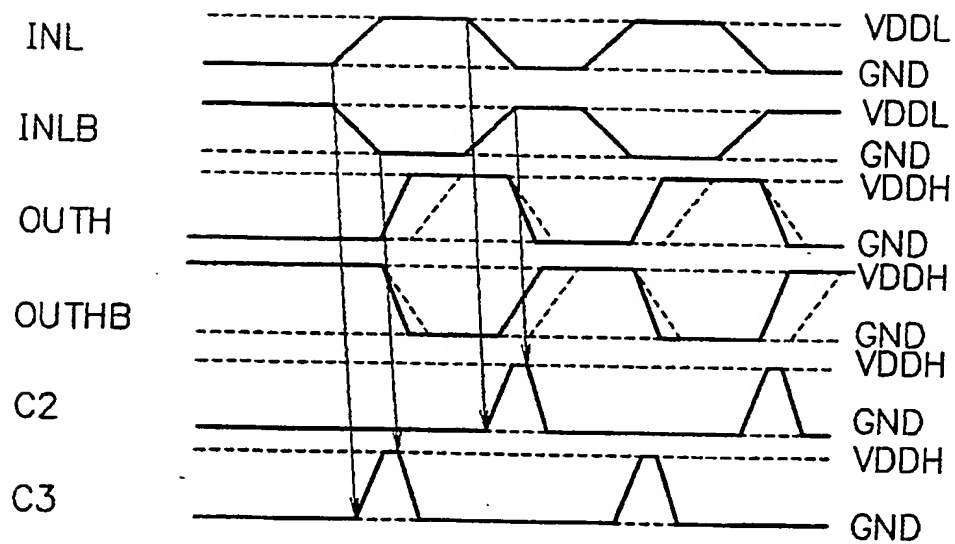
F I G. 23



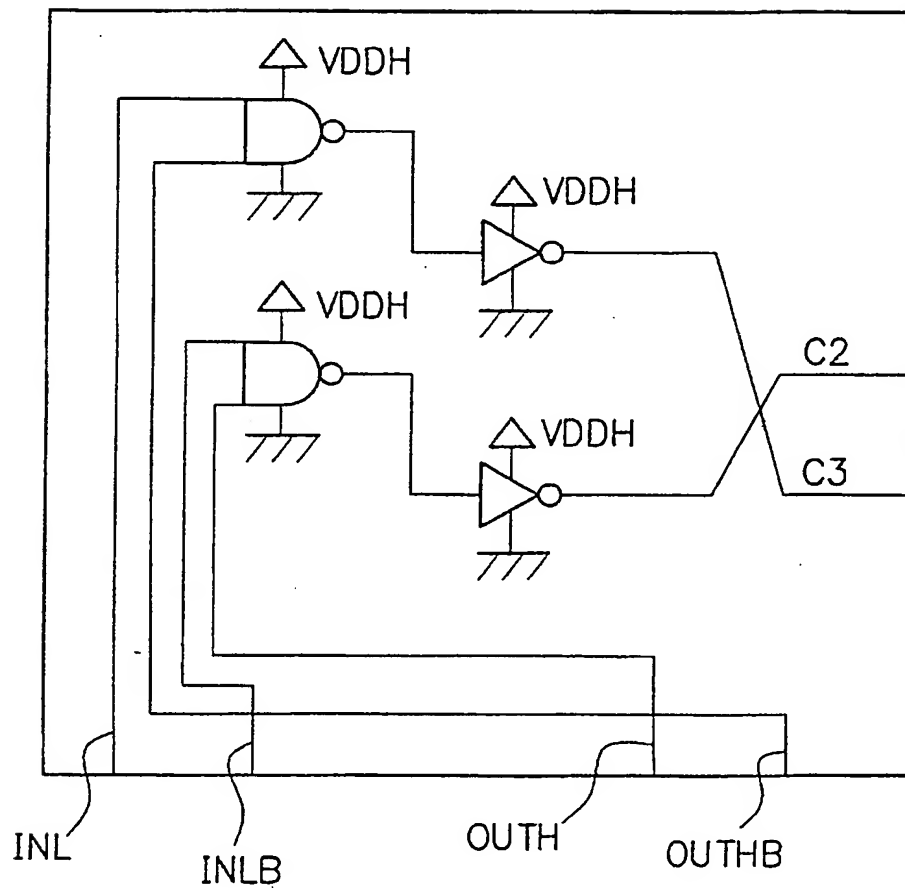
10/533807

Masahiro NOMURA
 LEVEL SHIFT CIRCUIT
 Filed: May 5, 2005
 Attorney Docket No.: Q87901
 Telephone No. 202-293-7060
 Sheet 24 of 38

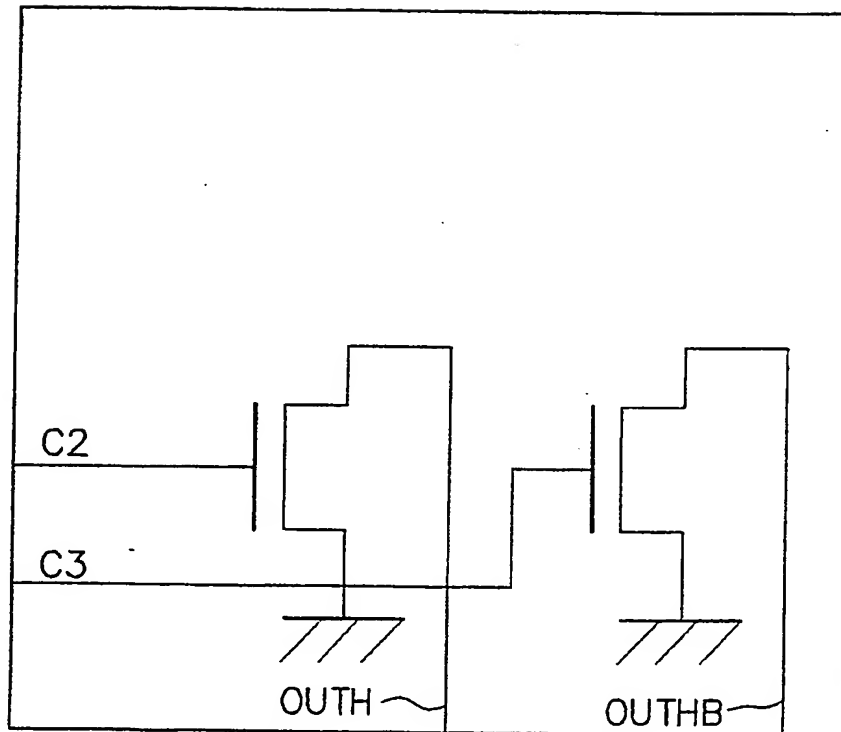
F I G. 24



F I G. 26



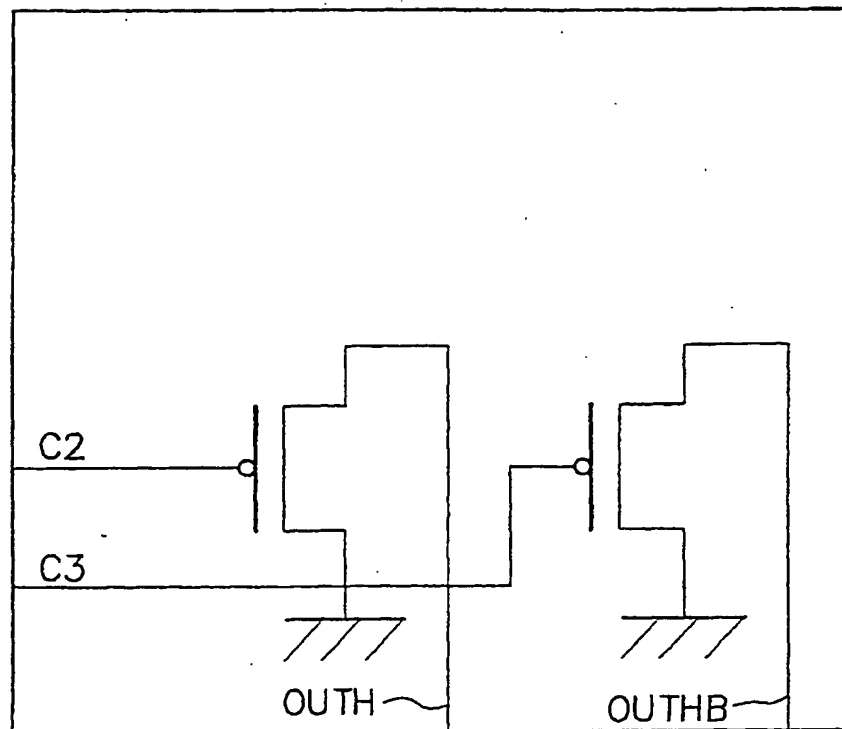
F I G. 27



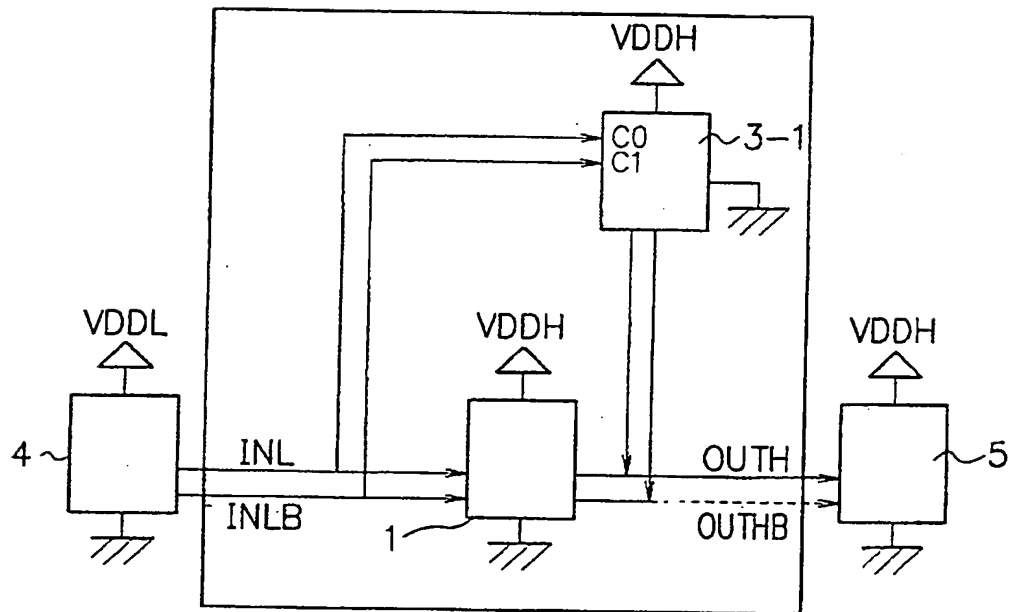
10/533807

Masahiro NOMURA
LEVEL SHIFT CIRCUIT
Filed: May 5, 2005
Attorney Docket No.: Q87901
Telephone No. 202-293-7060
Sheet 28 of 38

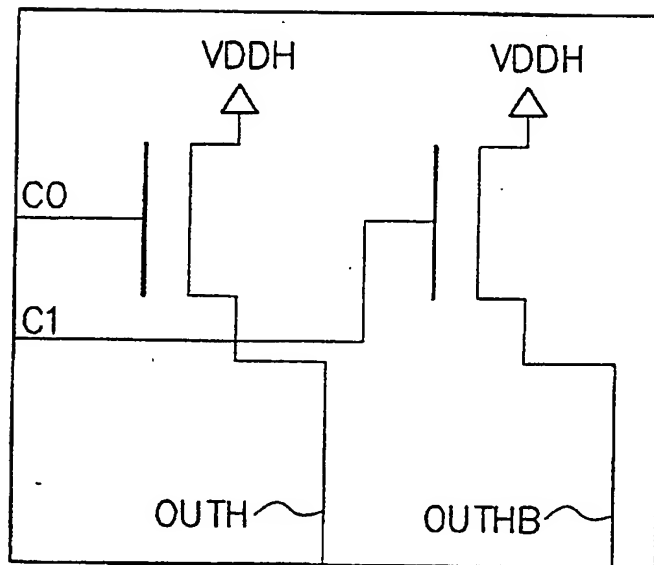
F I G. 28



F I G. 29



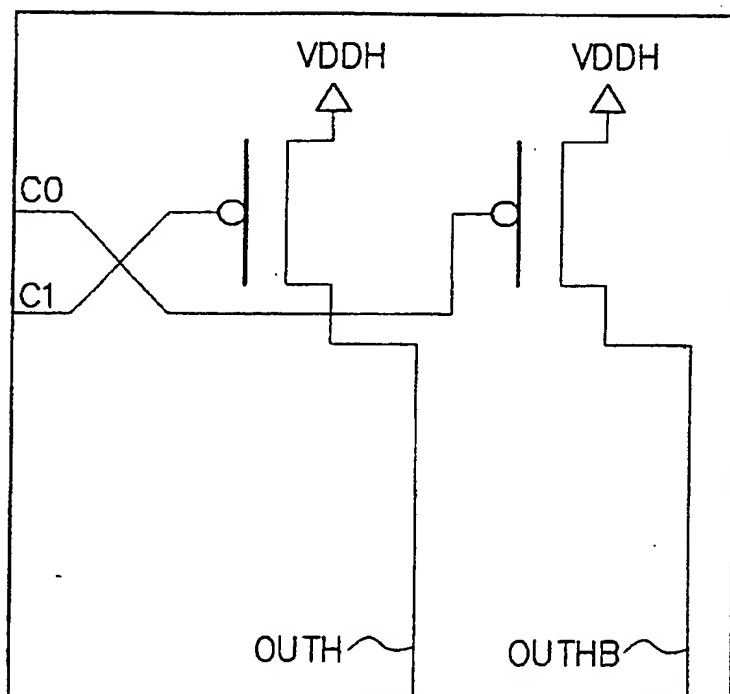
F I G. 30



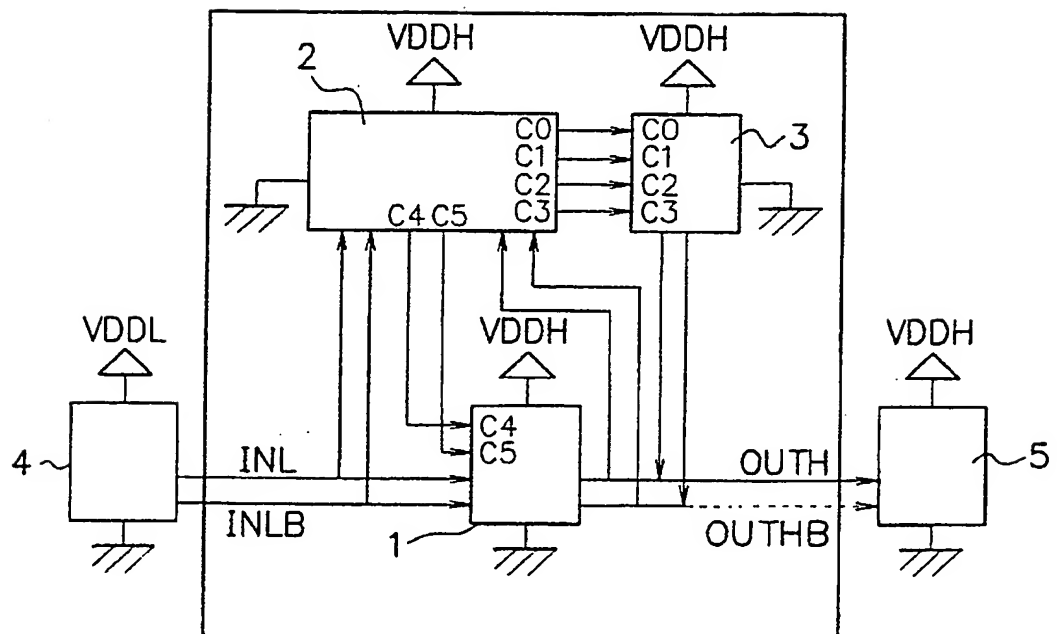
10/533807

Masahiro NOMURA
LEVEL SHIFT CIRCUIT
Filed: May 5, 2005
Attorney Docket No.: Q87901
Telephone No. 202-293-7060
Sheet 31 of 38

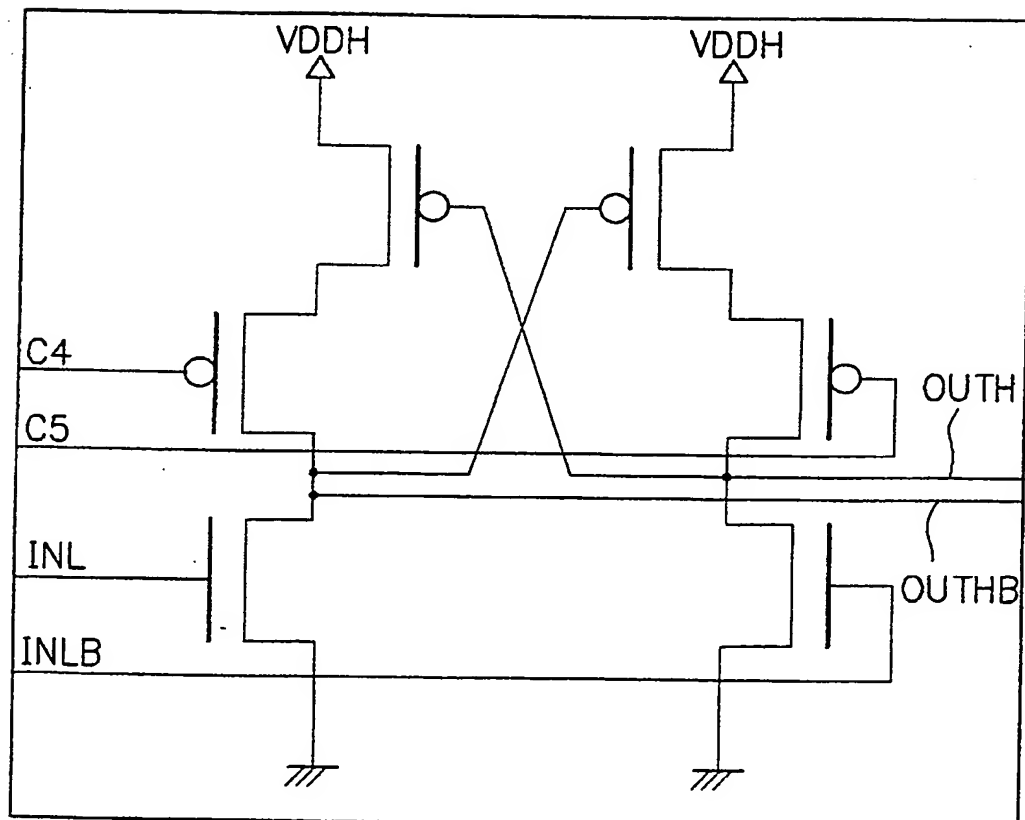
F I G. 31



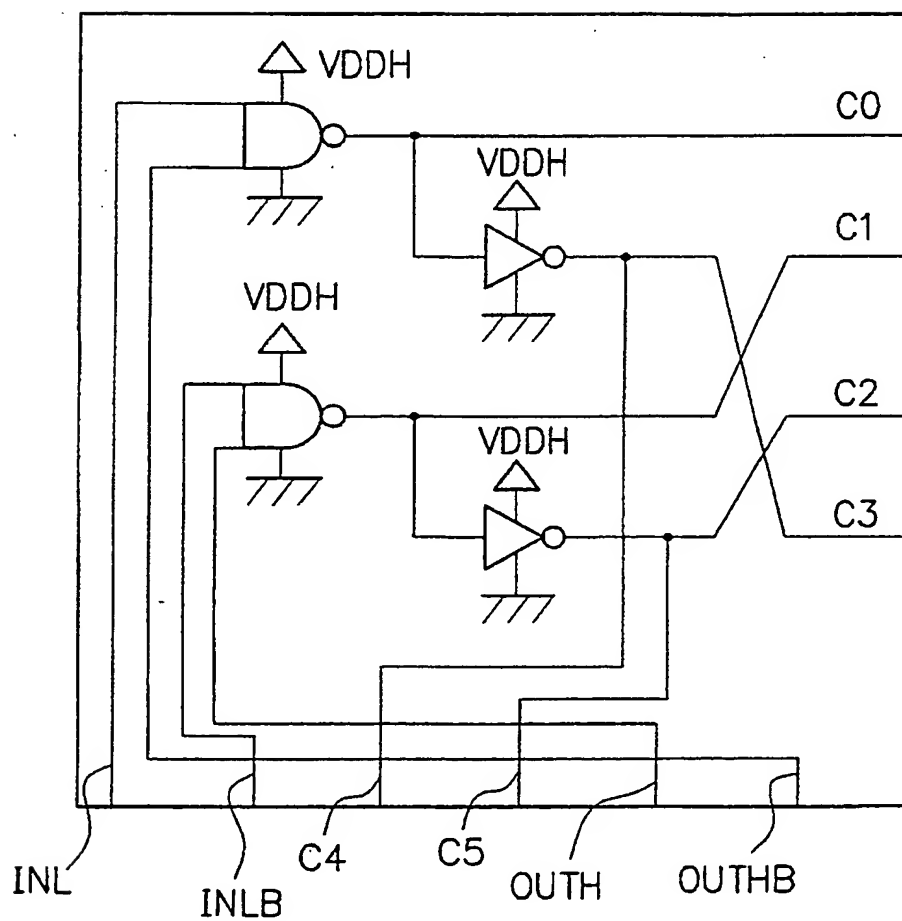
F I G. 32



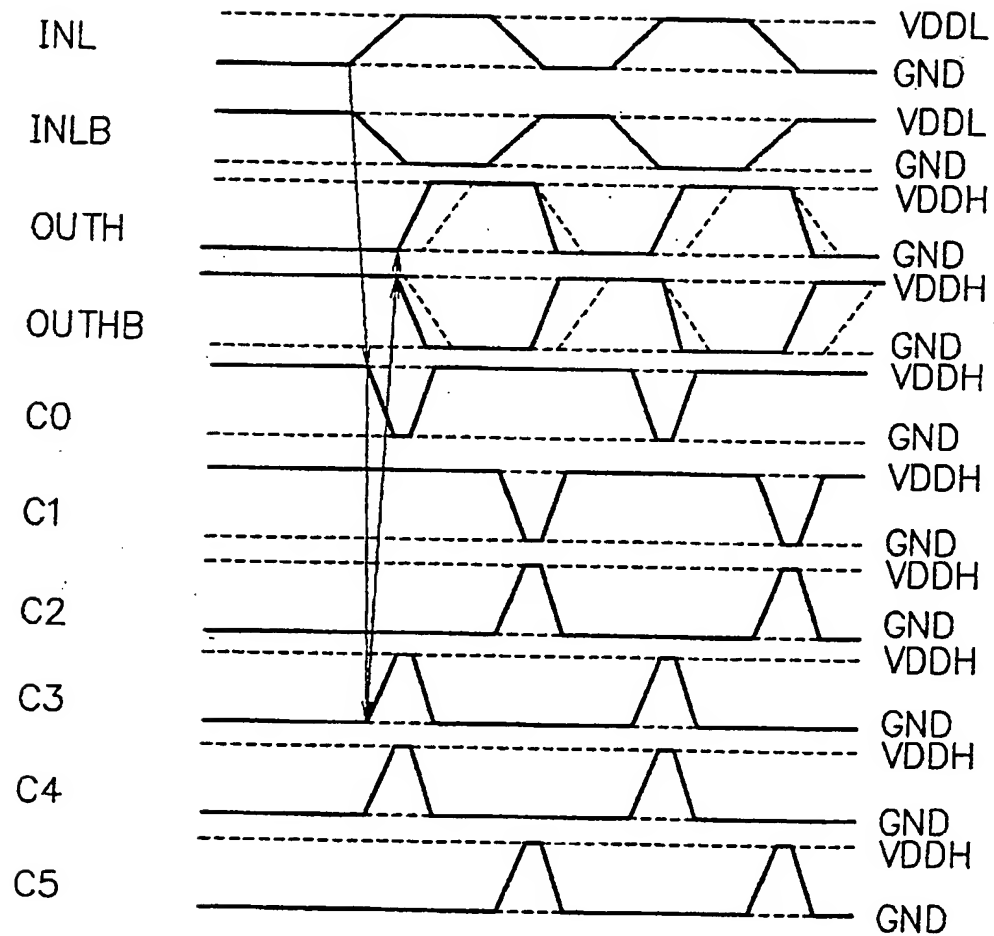
F I G. 33



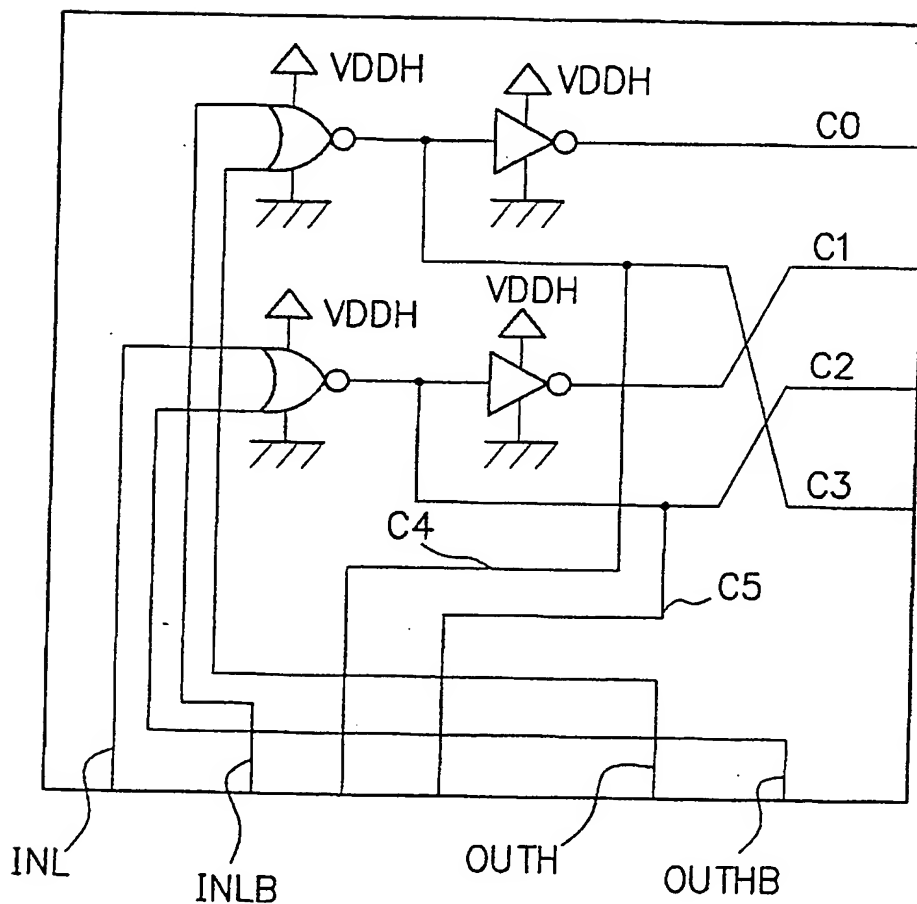
F I G. 34



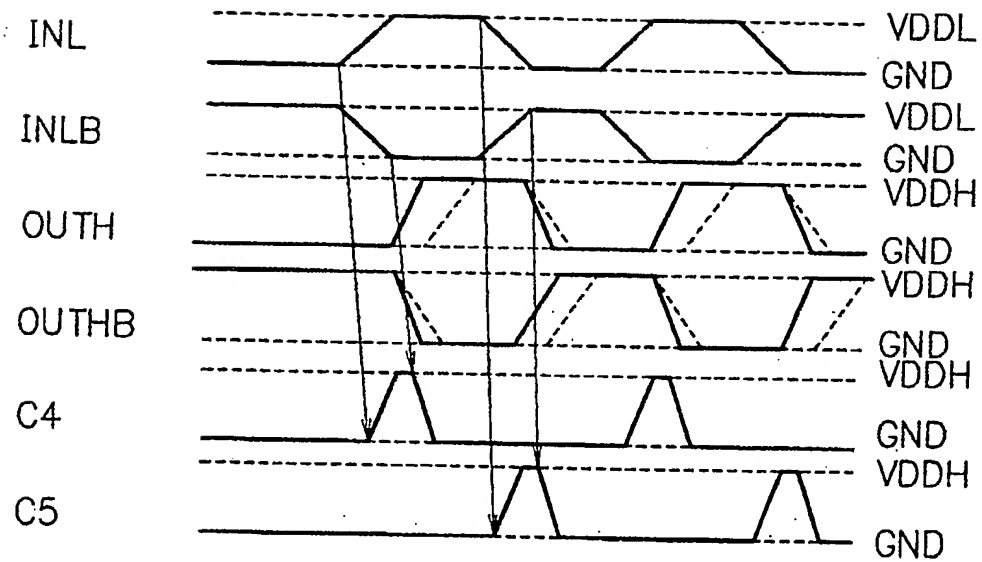
F I G. 35



F I G. 36



F I G. 37



F I G. 38

